

Table A1.1. Management history of southern New England – Mid Atlantic yellowtail flounder.

Year	Comments
1977	FCMA implemented March 1 Groundfish plan adopts quotas for cod, haddock, yellowtail flounder
1982	Interim Groundfish Plan adopted: 11 inch minimum size for yellowtail
	Scallop FMP implemented
1986	Northeast Multispecies FMP adopted: Minimum size for yellowtail flounder: 12 inches Seasonal yellowtail closure, March - May, between 69-30 and 72-30W Closed area I and II continued as spawning closures on GB
1989	Amendment 2: Yellowtail minimum size increased to 13 inches Seasonal large mesh area off Nantucket Shoals to protect cod
1991	Amendment 4: Tightened restrictions on carrying small mesh while in Regulated Mesh Areas Minimum mesh size of 5 1/2 inches in Southern New England yellowtail area
1994	Amendment 5 and emergency regulations: December: NLCA closed year round, including to scallop dredges DAS limits for most vessels West of 72-30W. Mesh determined by mesh requirements of summer flounder fishery (5 1/2 inch diamond or 6 inch square) Established Southern New England RMA, mesh of 5 1/2 inch diamond square, to increase to 5 1/2 inch diamond or 6 inch square in year 2. Area from approximately 69-40W to 72-30 W.
	Scallop Amendment 4: adopted permit moratorium, effort control/DAS program, 5.5 inch twine top minimum, and crew limits
1996	Amendment 7 Extended DAS limits to most vessels Limited possession of groundfish by scallop vessels to 300 pounds of regulated multispecies Established criteria for exempted fisheries Mid-Atlantic regulated mesh area fisheries exempt from bycatch certification
1999	Framework 27: (May 1) Increased square mesh minimum size to 6 1/2 inches in GOM/GB/SNE Regulated mesh areas Framework 29: (June)
	Amendment 9: (November): Revised overfishing definitions Scallop Framework 11: 10 inch minimum twine top mesh
2000	Scallop Framework 13: Scallop vessel closed area access programs with yellowtail bycatch limits
	Adopted management measures for small-mesh multispecies, establishing minimum mesh sizes and trip/possession limits to reduce mortality on silver, red, and offshore hake

Table A1.2. Southern New England–mid Atlantic yellowtail flounder catch (kt).

year	Mid-Atlantic		Southern New England						total
	U.S. landings	U.S. discards	foreign catch	U.S. landings	U.S. discards	industrial landings	foreign landings		
1960	0.0	0.0	0.0	8.3	3.2	0.5	0.0	12.0	
1961	0.0	0.0	0.0	12.3	4.7	0.7	0.0	17.7	
1962	0.0	0.0	0.0	13.3	5.3	0.2	0.0	18.8	
1963	0.0	0.0	0.0	22.3	5.4	0.3	0.2	28.2	
1964	1.8	0.0	0.0	19.5	9.5	0.5	0.0	31.3	
1965	2.1	0.0	0.0	19.4	7.0	1.0	1.4	30.9	
1966	2.2	0.0	0.0	17.6	5.3	2.7	0.7	28.5	
1967	5.3	0.0	0.0	15.3	7.7	4.5	2.8	35.6	
1968	3.3	0.0	0.0	18.2	6.3	3.9	3.5	35.2	
1969	3.9	0.0	0.7	15.6	2.4	4.2	17.6	44.4	
1970	4.1	0.0	0.1	15.2	4.5	2.1	2.5	28.5	
1971	6.9	0.0	1.0	8.6	2.2	0.4	0.3	19.3	
1972	8.8	0.0	0.1	8.5	1.8	0.3	3.0	22.5	
1973	4.9	0.2	0.2	7.2	1.5	0.3	0.2	14.5	
1974	1.9	0.0	0.0	6.4	8.7	0.0	0.1	17.1	
1975	0.6	0.0	0.0	3.2	1.9	0.0	0.0	5.7	
1976	0.3	0.0	0.0	1.6	1.6	0.0	0.0	3.4	
1977	0.5	0.0	0.0	2.8	1.9	0.0	0.0	5.2	
1978	0.8	0.0	0.0	2.3	5.0	0.0	0.0	8.1	
1979	0.2	0.0	0.0	5.3	4.4	0.0	0.0	9.9	
1980	0.3	0.0	0.0	6.0	1.7	0.0	0.0	8.0	
1981	0.7	0.0	0.0	4.7	1.2	0.0	0.0	6.6	
1982	0.4	0.0	0.0	10.3	5.0	0.0	0.0	15.8	
1983	1.5	0.2	0.0	17.0	3.5	0.0	0.0	22.2	
1984	2.2	0.0	0.0	7.9	1.1	0.0	0.0	11.2	
1985	0.9	0.0	0.0	2.7	1.2	0.0	0.0	4.8	
1986	0.2	0.0	0.0	3.3	1.1	0.0	0.0	4.6	
1987	0.2	0.0	0.0	1.6	0.9	0.0	0.0	2.7	
1988	0.1	0.0	0.0	0.9	1.8	0.0	0.0	2.8	
1989	0.4	0.0	0.0	2.5	5.5	0.0	0.0	8.3	
1990	0.2	0.0	0.0	8.0	9.7	0.0	0.0	17.9	
1991	0.2	0.0	0.0	3.9	2.3	0.0	0.0	6.4	
1992	0.2	0.0	0.0	1.4	1.1	0.0	0.0	2.7	
1993	0.2	0.0	0.0	0.5	0.1	0.0	0.0	0.8	
1994	0.2	0.1	0.0	0.2	0.1	0.0	0.0	0.6	
1995	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.3	
1996	0.2	0.0	0.0	0.3	0.1	0.0	0.0	0.5	
1997	0.5	0.0	0.0	0.2	0.0	0.0	0.0	0.8	
1998	0.2	0.0	0.0	0.4	0.1	0.0	0.0	0.7	
1999	0.5	0.0	0.0	0.7	0.1	0.0	0.0	1.3	
2000	0.2	0.0	0.0	0.7	0.0	0.0	0.0	1.0	
2001	0.2	0.0	0.0	0.8	0.0	0.0	0.0	1.1	

Table A1.3. Commercial samples of southern New England – Mid Atlantic yellowtail flounder by geographic region, half-year and market category (values in italics are Mid Atlantic observer lengths).

year	half	Southern New England			Mid Atlantic			ages	discard lengths
		uncl. lengths	large lengths	small lengths	uncl. lengths	large lengths	small lengths		
1969	1	5059	0	0	991	950	0	143	0
1969	2	5730	0	0	951	1120	0	159	0
1970	1	6313	0	0	2515	1238	0	377	0
1970	2	9554	0	0	3149	707	0	197	0
1971	1	5421	0	0	2165	1212	0	387	0
1971	2	3414	0	0	577	1305	0	250	0
1972	1	2817	479	741	1483	1132	252	420	442
1972	2	1761	364	515	968	395	0	99	0
1973	1	1441	675	777	1085	923	0	249	0
1973	2	2757	248	362	1035	1293	0	299	0
1974	1	2568	112	319	1296	327	251	741	383
1974	2	3767	0	299	1396	498	0	149	0
1975	1	767	633	1257	1039	220	345	898	456
1975	2	321	100	149	189	0	0	0	0
1976	1	412	717	843	824	235	157	0	173
1976	2	149	190	192	192	426	0	0	161
1977	1	0	707	803	572	520	379	340	497
1977	2	162	370	275	339	283	0	0	103
1978	1	0	747	1222	680	223	85	0	146
1978	2	431	433	472	427	322	0	0	104
1979	1	249	444	348	379	451	0	0	164
1979	2	2050	377	735	1073	164	0	0	54
1980	1	1664	1313	1559	1984	214	90	281	228
1980	2	916	365	961	803	129	0	0	52
1981	1	888	270	151	530	1155	0	0	465
1981	2	377	109	1111	554	0	0	0	0
1982	1	1071	608	1374	1108	821	0	0	319
1982	2	266	401	3361	1210	139	0	188	101
1983	1	205	750	2281	1060	578	90	0	197
1983	2	252	601	2411	915	0	0	174	50
1984	1	416	558	1469	520	1544	0	1244	532
1984	2	0	932	2976	832	469	0	161	120
1985	1	138	822	2524	833	842	0	260	235
1985	2	443	620	2725	759	172	0	154	60
1986	1	422	326	1753	537	380	107	410	269
1986	2	299	498	1517	472	0	0	0	0
1987	1	0	662	964	391	765	0	0	201
1987	2	0	586	1042	347	0	0	0	0
1988	1	0	800	1272	536	240	0	0	54
1988	2	0	381	692	294	0	0	0	0
1989	1	0	759	1274	559	0	0	0	432
1989	2	0	504	971	351	316	0	0	75
1990	1	0	776	1155	504	565	0	0	1311
1990	2	0	693	956	389	0	0	0	0
1991	1	0	619	932	384	151	0	0	25
1991	2	0	671	1034	434	456	0	0	209
1992	1	0	524	895	400	376	0	50	1
1992	2	0	520	660	326	35	0	0	0
1993	1	0	348	625	265	45	0	0	7
1993	2	0	72	234	0	7	0	0	0
1994	1	0	102	133	58	3	0	0	10
1994	2	0	252	254	128	0	94	134	7
1995	1	78	234	240	143	17	0	0	70
1995	2	0	94	146	50	3	0	0	57
1996	1	0	0	0	0	21	0	0	255
1996	2	0	469	691	305	28	0	60	479
1997	1	215	813	803	468	473	0	78	433
1997	2	78	328	679	238	67	91	0	17
1998	1	0	283	596	275	27	0	0	41
1998	2	0	0	127	37	101	100	0	8
1999	1	262	408	333	154	281	77	111	83
1999	2	0	0	0	0	0	0	0	0
2000	1	114	589	94	170	0	85	0	14
2000	2	300	715	598	80	0	0	0	26
2001	1	0	263	710	249	0	0	117	48
2001	2	222	626	1028	526	0	0	114	33

Table A1.4a. Landings at age (thousands) of yellowtail flounder in southern New England.

Year	Age								Total
	1	2	3	4	5	6	7	8+	
1973	28	2570	7169	4630	1716	1517	257	55	17,942
1974	130	1766	3922	5053	2500	950	1021	196	15,538
1975	170	2352	1496	973	1257	549	308	163	7,268
1976	0	1396	898	245	337	391	167	188	3,622
1977	66	2039	3931	392	205	253	123	160	7,169
1978	21	3209	1488	1025	165	34	44	28	6,014
1978	19	4972	8252	1033	428	96	24	0	14,824
1980	119	4557	6324	3619	472	117	19	12	15,239
1981	0	2732	6418	2449	884	128	14	0	12,625
1982	56	17414	12788	1741	404	78	7	0	32,488
1983	57	13823	33242	3347	376	129	35	7	51,016
1984	45	2624	13902	6587	740	244	7	14	24,163
1985	166	3984	1496	1312	774	135	27	4	7,898
1986	39	5926	2882	561	324	119	21	1	9,873
1987	72	1370	2014	803	139	47	8	1	4,454
1988	0	1154	504	407	101	17	6	0	2,189
1989	0	5213	1269	280	41	3	0	0	6,806
1990	0	415	18476	1352	68	5	0	0	20,316
1991	0	253	2230	6606	81	1	17	0	9,188
1992	0	301	896	1687	246	10	3	0	3,143
1993	0	211	361	417	124	4	0	0	1,117
1994	0	15	187	136	120	48	1	0	507
1995	0	154	125	182	18	1	3	0	483
1996	0	224	439	122	15	10	5	1	816
1997	0	33	319	146	14	2	2	1	517
1998	0	300	364	139	25	2	0	0	830
1999	0	9	1231	158	45	11	5	0	1,458
2000	0	420	805	323	12	2	1	1	1,563
2001	0	201	1086	297	83	18	9	0	1,694

Table A1.4b. Landed weight (kg) at age of yellowtail in southern New England.

Year	Age						78+
	1	2	3	4	5	6	
1973	0.210	0.298	0.381	0.420	0.430	0.506	0.611
1974	0.203	0.308	0.359	0.429	0.477	0.476	0.518
1975	0.218	0.290	0.385	0.439	0.436	0.469	0.515
1976	-	0.303	0.427	0.528	0.533	0.568	0.603
1977	0.215	0.284	0.385	0.521	0.529	0.484	0.612
1978	0.234	0.296	0.402	0.543	0.710	0.791	0.677
1979	0.189	0.301	0.366	0.476	0.590	0.684	0.679
1980	0.206	0.281	0.384	0.499	0.690	0.891	1.182
1981	0.140	0.262	0.343	0.484	0.619	0.664	0.476
1982	0.226	0.263	0.354	0.502	0.661	0.821	0.956
1983	0.175	0.262	0.341	0.499	0.671	0.829	0.838
1984	0.182	0.239	0.298	0.388	0.497	0.652	0.724
1985	0.183	0.264	0.370	0.428	0.541	0.620	0.867
1986	0.186	0.285	0.335	0.470	0.598	0.617	0.804
1987	0.247	0.268	0.361	0.412	0.542	0.595	0.905
1988	-	0.293	0.398	0.501	0.664	0.936	0.937
1989	-	0.337	0.389	0.546	0.736	0.959	1.278
1990	-	0.327	0.378	0.461	0.800	0.884	0.781
1991	-	0.336	0.379	0.426	0.715	1.530	0.599
1992	-	0.347	0.386	0.460	0.631	0.802	1.432
1993	-	0.358	0.430	0.471	0.645	1.040	1.040
1994	-	0.319	0.349	0.416	0.556	0.717	0.876
1995	-	0.317	0.410	0.460	0.668	0.883	0.863
1996	-	0.363	0.399	0.476	0.602	0.680	0.780
1997	-	0.347	0.435	0.494	0.677	0.847	0.926
1998	-	0.284	0.399	0.528	0.694	0.790	0.707
1999	-	0.334	0.440	0.574	0.763	1.106	1.104
2000	-	0.371	0.477	0.604	0.690	0.979	1.040
2001	-	0.393	0.441	0.617	0.743	0.919	0.948

Table A1.4c. Landings at age (thousands) of yellowtail in the Mid Atlantic.

Year	Age								Total
	1	2	3	4	5	6	7	8+	
1973	0	80	3426	3297	3510	3788	660	8	14,769
1974	0	87	838	2272	1187	648	453	80	5,565
1975	6	340	387	147	340	243	108	81	1,652
1976	0	78	269	82	112	86	63	1	690
1977	2	221	917	115	73	51	44	18	1,441
1978	0	880	669	445	82	27	26	20	2,149
1979	0	142	296	29	10	5	5	1	488
1980	18	217	253	210	40	12	3	4	757
1981	0	284	841	477	227	33	3	5	1,869
1982	0	566	665	114	11	1	0	0	1,357
1983	0	593	3914	237	9	17	2	2	4,773
1984	2	434	5136	1467	138	1	9	0	7,188
1985	0	1046	659	656	335	69	11	0	2,775
1986	1	289	405	74	32	8	0	0	808
1987	4	33	335	123	28	8	1	0	532
1988	0	59	28	99	33	9	0	0	229
1989	0	705	244	51	1	0	0	0	1,001
1990	0	8	446	184	11	0	0	0	649
1991	0	0	113	208	75	33	0	0	429
1992	0	0	115	393	18	4	1	0	532
1993	0	34	71	285	21	0	0	0	411
1994	0	7	79	103	164	77	3	0	432
1995	0	45	14	7	1	2	1	2	73
1996	0	117	105	92	32	5	0	0	353
1997	0	35	751	378	46	3	1	2	1,217
1998	0	96	133	117	46	7	3	0	401
1999	0	18	835	100	44	0	0	0	998
2000	0	74	252	110	3	1	0	0	440
2001	32	200	111	43	14	10	0	0	409

Table A1.4d. Landed weight (kg) at age of yellowtail in the Mid Atlantic.

Year	Age							
	1	2	3	4	5	6	78+	
1973	-	0.184	0.267	0.310	0.358	0.382	0.421	0.830
1974	-	0.210	0.311	0.323	0.358	0.364	0.386	0.450
1975	0.218	0.283	0.342	0.385	0.432	0.430	0.478	0.524
1976	-	0.265	0.342	0.409	0.397	0.429	0.404	0.621
1977	0.201	0.268	0.364	0.447	0.469	0.466	0.511	0.553
1978	-	0.241	0.339	0.520	0.566	0.553	0.568	0.605
1979	-	0.249	0.317	0.424	0.586	0.461	0.344	0.830
1980	0.202	0.269	0.373	0.509	0.581	0.712	0.760	0.696
1981	0.140	0.261	0.337	0.421	0.504	0.687	0.473	0.649
1982	-	0.263	0.325	0.458	0.636	0.863	-	-
1983	0.175	0.238	0.315	0.455	0.523	0.707	0.765	0.765
1984	0.144	0.215	0.287	0.387	0.436	0.704	0.614	-
1985	-	0.235	0.355	0.367	0.419	0.494	0.450	-
1986	0.185	0.258	0.305	0.408	0.476	0.563	0.720	-
1987	0.260	0.282	0.303	0.350	0.409	0.536	0.619	-
1988	-	0.303	0.369	0.459	0.449	0.539	-	-
1989	-	0.359	0.458	0.606	0.700	0.882	-	-
1990	-	0.330	0.351	0.386	0.509	-	-	-
1991	-	0.234	0.392	0.426	0.680	0.881	-	-
1992	-	-	0.382	0.459	0.636	0.808	1.048	-
1993	-	0.302	0.431	0.422	0.614	-	-	-
1994	-	0.323	0.362	0.494	0.602	0.715	0.913	-
1995	-	0.222	0.315	0.350	0.494	0.480	0.594	0.769
1996	-	0.378	0.412	0.471	0.580	0.687	-	-
1997	-	0.296	0.416	0.474	0.552	0.952	1.128	1.941
1998	-	0.344	0.457	0.626	0.827	1.007	1.048	-
1999	-	0.360	0.458	0.548	0.563	-	-	-
2000	-	0.371	0.472	0.616	0.931	1.173	1.040	1.040
2001	-	0.366	0.464	0.643	0.817	0.968	1.030	

Table A1.5a. Discard estimates for southern New England yellowtail flounder for 2000 and 2001 from logbook (VTR) data (observer data, OB, also listed for comparison).

2000 logbook data

half year/gear	kept (mt)	disc (mt)	d/k	landings (mt)	discards (mt)
1 trawl	69.0	2.1	0.031	343.9	10.5
dredge	0.1	3.3	23.102	0.6	13.6
2 trawl	97.7	2.5	0.026	402.6	10.5
dredge	0.1	3.5	38.696	0.1	2.2
total					36.8

2000 observer data

half year/gear	kept (mt)	disc (mt)	d/k	trips	discard lengths
1 trawl	0.20	0.21	1.069	2	90
dredge					0
2 trawl	1.57	0.37	0.237	2	82
dredge	0.04	0.63	17.859	1	22
total					194

2001 logbook data

half year/gear	kept (mt)	disc (mt)	d/k	landings (mt)	discards (mt)
1 trawl	162.0	3.9	0.024	602.9	14.5
dredge	0.1	2.2	40.907	0.0	0.4
2 trawl	42.7	1.3	0.029	225.0	6.6
dredge	0.0	2.5	280.478	0.1	20.1
total					41.7

2001 observer data

half year/gear	kept (mt)	disc (mt)	d/k	trips	discard lengths
1 trawl	11.15	0.75	0.067	1	72
dredge	0.00	0.28		1	0
2 trawl	1.46	0.21	0.142	3	82
dredge				0	0
total					154

Table A1.5b. Discard estimates for Mid Atlantic yellowtail flounder, 1994-2001 from logbook (VTR) data (observer data, OB, also listed for comparison).

Trawl Discards		OB year	OB kept	OB discard	VTR d/k	VTR kept	VTR discard	VTR d/k	landings	discards
1994	1	0.054	0.004	0.07	0.292	0.062	0.2127	63.1	13.4	
1994	2	0.001	0.024	47.20	0.675	0.043	0.0639	93.3	6.0	
1995	1	0.000	0.001		1.436	0.692	0.4817	5.2	2.5	
1995	2				2.994	0.170	0.0568	11.1	0.6	
1996	1	0.001	0.000	0.00	24.362	1.442	0.0592	83.3	4.9	
1996	2	0.000	0.345		22.607	0.815	0.0361	66.0	2.4	
1997	1	1.925	0.133	0.07	84.408	3.500	0.0415	451.7	18.7	
1997	2	0.000	0.381		9.887	0.714	0.0723	71.3	5.1	
1998	1	0.001	0.000	0.00	29.147	2.302	0.0790	117.5	9.3	
1998	2	0.018	0.002	0.13	12.033	0.765	0.0636	86.0	5.5	
1999	1	0.000	0.009		103.788	4.402	0.0424	409.9	17.4	
1999	2				9.022	0.484	0.0536	57.7	3.1	
2000	1	0.001	0.030	21.36	46.856	0.968	0.0206	152.8	3.2	
2000	2	6.269	0.424	0.07	14.233	0.467	0.0328	65.3	2.1	
2001	1	0.079	0.000	0.00	38.375	0.956	0.0249	206.5	5.1	
2001	2	0.000	0.003		4.040	0.175	0.0433	27.7	1.2	
Dredge Discards										
1994	1	0.045	0.037	0.82	0.320	0.445	1.392	69.1	96.2	
1994	2	0.001	0.006	4.57	0.091	0.068	0.747	12.6	9.4	
1995	1	0.030	0.245	8.24	0.889	0.494	0.556	3.2	1.8	
1995	2	0.014	0.361	25.62	0.439	0.426	0.971	1.6	1.6	
1996	1	0.081	0.856	10.54	0.859	0.370	0.430	2.9	1.3	
1996	2	0.054	0.674	12.57	0.529	1.150	2.174	1.5	3.4	
1997	1	0.211	0.863	4.10	1.179	0.628	0.533	6.3	3.4	
1997	2	0.095	0.200	2.11	0.894	0.284	0.317	6.4	2.0	
1998	1	0.023	0.103	4.48	1.410	1.281	0.909	5.7	5.2	
1998	2	0.000	0.058	144.50	0.839	0.578	0.689	6.0	4.1	
1999	1	0.015	0.126	8.37	1.126	0.166	0.147	35.1	5.2	
1999	2				0.052	0.009	0.175	0.0	0.0	
2000	1	0.000	0.211		0.122	0.227	1.859	2.0	3.8	
2000	2	0.000	0.033		0.077	0.261	3.387	0.1	0.4	
2001	all	0.079	0.000	0.00	0.062	1.699	27.398	0.9	24.6	

Table A1.6a. Discards at age (thousands) of yellowtail flounder in southern New England.

Year	Age						
	1	2	3	4	5	6	7
1973	160	2486	1130	43	0	0	0
1974	728	26568	793	45	0	0	0
1975	8670	1427	1	10	0	0	0
1976	214	5203	14	0	0	0	0
1977	5376	2732	42	0	0	0	0
1978	8677	10102	7	0	0	0	0
1979	185	14253	119	0	0	0	0
1980	869	5441	18	0	0	0	0
1981	38	4013	319	0	0	0	0
1982	113	17716	905	3	0	0	0
1983	2469	4607	5373	17	0	0	0
1984	465	3107	941	74	0	0	0
1985	2064	3031	20	0	0	0	0
1986	423	3754	39	0	0	0	0
1987	1518	2034	19	0	0	0	0
1988	5899	896	4	0	0	0	0
1989	24	14002	1834	131	6	0	0
1990	192	1633	23709	673	11	0	0
1991	445	1354	2820	2883	12	0	0
1992	477	1152	1086	659	33	0	0
1993	13	212	15	9	0	0	0
1994	9	134	35	29	12	2	0
1995	7	94	38	27	12	3	0
1996	21	81	56	29	13	2	0
1997	1	23	32	4	1	0	0
1998	0	88	114	40	9	3	1
1999	3	64	215	22	11	2	0
2000	31	35	29	13	0	0	0
2001	1	35	75	3	2	0	0

Table A1.6b. Discarded weight at age of southern New England yellowtail flounder.

Year	Age						
	1	2	3	4	5	6	7
1973	0.210	0.298	0.381	0.420			
1974	0.203	0.308	0.359	0.429			
1975	0.218	0.290	0.385	0.439			
1976	0.228	0.303	0.427				
1977	0.215	0.284	0.385				
1978	0.234	0.296	0.402				
1979	0.189	0.301	0.366				
1980	0.206	0.281	0.384				
1981	0.140	0.262	0.343				
1982	0.226	0.263	0.354	0.502			
1983	0.175	0.262	0.341	0.499			
1984	0.182	0.239	0.298	0.388			
1985	0.183	0.264	0.370				
1986	0.186	0.285	0.335				
1987	0.247	0.268	0.361				
1988	0.270	0.293	0.398				
1989	0.311	0.337	0.389	0.546	0.736		
1990	0.301	0.327	0.378	0.461	0.800		
1991	0.206	0.248	0.302	0.387	0.413		
1992	0.167	0.308	0.351	0.354	0.344		
1993	0.122	0.358	0.430	0.471			
1994	0.108	0.323	0.349	0.416	0.556	0.358	
1995	0.123	0.317	0.410	0.477	0.668	0.883	
1996	0.147	0.404	0.495	0.424	0.610	0.922	
1997	0.143	0.220	0.325	0.532	0.722		
1998	0.020	0.284	0.399	0.528	0.694	0.790	0.707
1999	0.208	0.272	0.389	0.565	0.767	0.586	1.183
2000	0.020	0.314	0.473	0.572			
2001	0.153	0.327	0.363	0.568	0.528		

Table A1.6c. Discards at age (thousands) of Mid Atlantic yellowtail flounder.

Year	Age					
	1	2	3	4	5	6
1973	32	496	225	9	0	0
1974	3	98	3	0	0	0
1975	64	11	0	0	0	0
1976	0	0	0	0	0	0
1977	69	35	1	0	0	0
1978	0	0	0	0	0	0
1979	1	52	0	0	0	0
1980	0	0	0	0	0	0
1981	0	0	0	0	0	0
1982	0	0	0	0	0	0
1983	142	265	309	1	0	0
1984	5	34	10	1	0	0
1985	9	13	0	0	0	0
1986	0	1	0	0	0	0
1987	0	0	0	0	0	0
1988	0	0	0	0	0	0
1989	0	0	0	0	0	0
1990	0	1	12	0	0	0
1991	1	3	6	6	0	0
1992	0	0	0	0	0	0
1993	0	0	0	0	0	0
1994	145	592	11	13	13	0
1995	0	15	3	3	0	1
1996	1	5	26	5	0	0
1997	1	11	64	10	0	0
1998	3	27	24	10	1	2
1999	3	15	39	8	3	0
2000	4	38	5	2	0	0
2001	0	7	51	13	2	0

Table A1.6d. Discarded weight at age of Mid Atlantic yellowtail flounder.

Year	Age					
	1	2	3	4	5	6
1973	0.210	0.298	0.381	0.420		
1974	0.203	0.308	0.359	0.429		
1975	0.218	0.290	0.385	0.439		
1976	0.228	0.303	0.427			
1977	0.215	0.284	0.385			
1978	0.234	0.296	0.402			
1979	0.189	0.301	0.366			
1980	0.206	0.281	0.384			
1981	0.140	0.262	0.343			
1982	0.226	0.263	0.354	0.502		
1983	0.175	0.262	0.341	0.499		
1984	0.182	0.239	0.298	0.388		
1985	0.183	0.264	0.370			
1986	0.186	0.285	0.335			
1987	0.247	0.268	0.361			
1988	0.270	0.293	0.398			
1989	0.311	0.337	0.389	0.546	0.736	
1990	0.301	0.327	0.378	0.461	0.800	
1991	0.206	0.248	0.302	0.387	0.413	
1992	0.167	0.308	0.351	0.354	0.344	
1993	0.122	0.358	0.430	0.471		
1994	0.065	0.171	0.348	0.407	0.377	
1995	0.146	0.233	0.318	0.385	0.506	0.507
1996	0.163	0.220	0.347	0.358	0.652	0.810
1997	0.133	0.230	0.347	0.399	0.567	0.876
1998	0.162	0.267	0.389	0.507	0.627	0.499
1999	0.234	0.251	0.399	0.501	0.608	0.899
2000	0.149	0.137	0.447	0.570	0.765	
2001	0.153	0.278	0.385	0.590	0.621	0.765

Table A1.7. NEFSC Survey indices of abundance and biomass of southern New England – Mid Atlantic yellowtail flounder.

Fall Survey

year	age-0	age-1	age-2	age-3	age-4	age-5	age-6	age-7	age-8	age-9	sum	kg/tow
1963	0.030	14.778	12.274	9.972	4.944	0.683	0.059	0.082	0.000	0.000	42.822	14.023
1964	0.000	13.900	19.067	3.381	5.356	2.643	0.543	0.036	0.000	0.000	44.925	13.972
1965	0.166	22.272	12.835	4.327	1.489	1.184	0.146	0.000	0.000	0.000	42.418	10.228
1966	0.569	34.899	10.656	2.342	0.902	0.175	0.000	0.000	0.000	0.000	49.542	9.033
1967	0.177	23.579	29.045	12.719	1.212	0.260	0.047	0.124	0.000	0.000	67.164	14.018
1968	0.000	13.882	21.622	24.639	1.571	0.263	0.325	0.069	0.000	0.000	62.370	13.038
1969	0.056	10.440	11.316	33.936	4.454	0.049	0.019	0.019	0.000	0.000	60.288	14.472
1970	0.067	4.414	8.047	29.866	18.927	3.305	0.359	0.047	0.000	0.000	65.032	16.211
1971	0.000	14.540	12.485	6.886	12.452	1.909	0.162	0.123	0.000	0.000	48.556	8.975
1972	0.000	3.245	32.938	33.089	33.080	18.618	2.305	0.101	0.000	0.000	123.376	31.543
1973	0.000	1.779	1.747	4.086	2.318	1.564	0.768	0.162	0.000	0.000	12.422	3.125
1974	0.132	0.695	1.185	0.433	1.640	0.687	0.297	0.146	0.014	0.042	5.271	1.545
1975	0.000	1.533	0.416	0.136	0.217	0.213	0.048	0.070	0.000	0.000	2.634	0.602
1976	0.000	1.964	4.204	0.350	0.046	0.073	0.190	0.220	0.099	0.000	7.147	1.954
1977	0.028	2.289	1.439	0.519	0.044	0.040	0.035	0.065	0.000	0.000	4.459	1.125
1978	0.000	2.080	4.771	0.296	0.236	0.024	0.006	0.048	0.000	0.021	7.481	2.004
1979	0.000	1.493	3.283	1.579	0.241	0.026	0.026	0.000	0.000	0.000	6.646	1.818
1980	0.000	1.153	2.908	0.757	0.313	0.000	0.000	0.000	0.000	0.000	5.130	1.354
1981	0.000	9.511	9.498	1.251	0.198	0.103	0.037	0.000	0.000	0.000	20.597	4.046
1982	0.000	2.040	17.794	4.392	0.535	0.215	0.000	0.000	0.000	0.000	24.976	5.706
1983	0.000	1.920	11.278	5.593	0.458	0.038	0.000	0.026	0.000	0.000	19.314	4.490
1984	0.000	1.444	1.275	1.529	0.334	0.000	0.000	0.000	0.000	0.000	4.582	1.033
1985	0.000	0.869	0.375	0.134	0.080	0.000	0.000	0.000	0.000	0.000	1.458	0.298
1986	0.000	0.606	1.826	0.523	0.123	0.025	0.000	0.000	0.000	0.000	3.104	0.754
1987	0.073	1.067	0.451	0.359	0.030	0.024	0.000	0.024	0.000	0.000	2.028	0.401
1988	0.000	4.370	0.310	0.141	0.156	0.021	0.034	0.000	0.000	0.000	5.032	0.510
1989	0.000	0.198	10.492	1.370	0.072	0.000	0.000	0.000	0.000	0.000	12.132	2.359
1990	0.000	0.539	1.847	3.117	0.194	0.000	0.000	0.000	0.000	0.000	5.696	1.305
1991	0.000	0.588	0.243	1.516	0.367	0.000	0.000	0.000	0.000	0.000	2.713	0.755
1992	0.000	0.168	0.024	0.072	0.285	0.000	0.000	0.000	0.000	0.000	0.548	0.147
1993	0.000	0.332	0.028	0.130	0.104	0.000	0.000	0.000	0.000	0.000	0.594	0.116
1994	0.000	0.732	0.448	0.107	0.129	0.066	0.025	0.000	0.000	0.000	1.507	0.308
1995	0.000	0.139	0.645	0.257	0.115	0.000	0.000	0.025	0.028	0.000	1.209	0.304
1996	0.000	0.448	0.161	0.320	0.000	0.000	0.000	0.000	0.000	0.000	0.929	0.208
1997	0.000	0.822	0.519	1.459	0.271	0.024	0.000	0.000	0.000	0.000	3.095	0.851
1998	0.023	0.890	1.620	0.124	0.049	0.000	0.023	0.000	0.000	0.000	2.728	0.655
1999	0.000	1.238	0.392	0.279	0.028	0.028	0.000	0.000	0.000	0.000	1.964	0.468
2000	0.000	0.049	1.669	0.303	0.171	0.000	0.000	0.023	0.000	0.000	2.215	0.718
2001	0.000	0.390	0.611	0.158	0.071	0.000	0.000	0.000	0.000	0.000	1.231	0.419

Table A1.7 cont.

Spring Survey

year	age-1	age-2	age-3	age-4	age-5	age-6	age-7	age-8	age-9	age-10	age-11	sum	kg/tow
1968	1.014	29.910	38.854	13.103	1.076	0.040	0.184	0.000	0.000	0.000	0.000	84.181	18.645
1969	2.941	18.796	29.464	14.069	1.599	0.147	0.048	0.000	0.000	0.000	0.000	67.064	14.311
1970	1.045	7.311	18.942	16.237	3.518	0.656	0.123	0.005	0.022	0.000	0.000	47.860	12.066
1971	0.447	7.616	8.124	20.765	3.713	0.371	0.004	0.000	0.000	0.004	0.000	41.043	9.552
1972	0.196	12.355	11.201	5.986	9.887	2.394	0.303	0.000	0.000	0.000	0.000	42.321	10.815
1973	0.838	5.467	14.753	8.335	6.432	7.987	0.852	0.230	0.083	0.000	0.000	44.977	12.115
1974	0.511	2.188	2.607	5.016	2.891	1.154	1.291	0.145	0.027	0.000	0.000	15.830	4.918
1975	0.358	1.171	0.406	0.665	0.709	0.531	0.156	0.197	0.000	0.000	0.000	4.193	1.307
1976	0.016	4.182	0.536	0.256	0.245	0.338	0.096	0.031	0.000	0.000	0.000	5.699	1.666
1977	1.618	1.557	2.758	0.242	0.154	0.189	0.093	0.080	0.006	0.046	0.000	6.743	1.963
1978	2.681	10.302	1.791	0.778	0.253	0.126	0.123	0.158	0.010	0.000	0.000	16.221	3.513
1979	1.002	2.967	1.601	0.255	0.124	0.018	0.018	0.014	0.000	0.000	0.012	6.009	1.318
1980	0.683	6.353	4.298	2.684	0.261	0.070	0.005	0.009	0.015	0.001	0.005	14.384	4.830
1981	0.810	18.598	4.817	2.502	0.580	0.113	0.000	0.000	0.000	0.000	0.000	27.420	6.930
1982	0.149	17.329	5.610	1.406	0.467	0.135	0.017	0.000	0.000	0.000	0.000	25.114	5.865
1983	0.016	5.329	8.803	0.598	0.191	0.000	0.000	0.000	0.000	0.000	0.000	14.938	4.097
1984	0.038	0.453	0.902	2.110	0.354	0.262	0.000	0.000	0.000	0.000	0.000	4.119	1.302
1985	0.267	1.613	0.406	0.480	0.714	0.135	0.019	0.000	0.000	0.000	0.000	3.634	0.948
1986	0.016	2.893	0.916	0.237	0.124	0.016	0.000	0.000	0.000	0.000	0.000	4.201	1.052
1987	0.000	0.086	0.701	0.167	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.954	0.319
1988	0.285	0.357	0.125	0.174	0.294	0.029	0.000	0.000	0.000	0.000	0.000	1.263	0.378
1989	0.162	11.211	0.537	0.113	0.000	0.000	0.000	0.000	0.000	0.000	0.000	12.022	2.090
1990	0.090	0.485	15.349	2.194	0.079	0.000	0.000	0.000	0.000	0.000	0.000	18.197	5.064
1991	0.228	0.611	2.509	4.156	0.539	0.060	0.000	0.000	0.000	0.000	0.000	8.103	2.508
1992	0.036	0.051	0.571	1.597	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.255	0.794
1993	0.016	0.253	0.112	0.441	0.071	0.000	0.000	0.000	0.000	0.000	0.000	0.894	0.341
1994	0.016	0.269	0.016	0.000	0.068	0.019	0.000	0.000	0.000	0.000	0.000	0.389	0.136
1995	0.016	1.169	0.068	0.092	0.019	0.037	0.000	0.016	0.016	0.000	0.000	1.433	0.329
1996	0.000	0.398	1.303	0.566	0.072	0.000	0.000	0.000	0.000	0.000	0.000	2.339	0.747
1997	0.053	0.885	1.144	0.327	0.067	0.000	0.000	0.000	0.000	0.000	0.000	2.475	0.789
1998	0.068	3.016	0.386	0.161	0.036	0.021	0.000	0.000	0.000	0.000	0.000	3.688	0.848
1999	0.036	0.651	1.930	0.349	0.074	0.000	0.023	0.000	0.000	0.000	0.000	3.062	1.138
2000	0.019	1.245	1.006	0.559	0.043	0.000	0.000	0.000	0.000	0.000	0.000	2.873	0.990
2001	0.000	0.069	1.158	0.240	0.082	0.023	0.000	0.000	0.000	0.000	0.000	1.572	0.657
2002	0.049	1.191	0.235	0.200	0.067	0.000	0.000	0.000	0.000	0.000	0.000	1.742	0.510

Table A1.7 continued.

Winter Survey

year	age-1	age-2	age-3	age-4	age-5	age-6	age-7	age-8	sum	kg/tow
1992	0.011	1.619	3.477	8.063	0.959	0.000	0.000	0.000	14.129	5.264
1993	0.596	1.924	1.057	2.487	0.292	0.000	0.000	0.000	6.357	2.118
1994	0.366	8.654	0.742	1.654	0.966	0.353	0.118	0.000	12.854	3.924
1995	0.090	10.681	2.698	0.597	0.253	0.185	0.016	0.000	14.519	3.464
1996	0.041	1.285	8.235	0.851	0.140	0.065	0.015	0.015	10.648	3.346
1997	0.156	2.380	9.785	2.958	0.529	0.000	0.038	0.000	15.846	5.720
1998	0.118	7.841	1.596	1.158	0.112	0.000	0.018	0.000	10.843	2.780
1999	0.243	2.909	10.176	0.777	0.311	0.056	0.023	0.000	14.494	5.226
2000	0.109	4.917	3.006	1.160	0.073	0.100	0.000	0.000	9.364	3.025
2001	0.028	0.895	8.542	1.615	0.254	0.096	0.046	0.000	11.475	4.786
2002	0.012	2.735	2.578	2.047	0.100	0.020	0.000	0.000	7.492	2.589

Scallop Survey

year	all	age-1
1982	3.123	0.362
1983	0.858	0.255
1984	0.309	0.180
1985	0.577	0.465
1986	0.199	0.015
1987	0.150	0.054
1988	7.482	7.359
1989	3.774	0.579
1990	0.370	0.158
1991	0.230	0.151
1992	0.169	0.108
1993	0.192	0.170
1994	0.732	0.573
1995	0.507	0.072
1996	38.479	0.120
1997	0.886	0.736
1998	0.567	0.253
1999	0.456	0.357
2000	0.432	0.082
2001	0.106	0.063
2002	0.152	0.020

Table A1.8. Correlation among abundance indices by age.

Age 1	Fall	Spring	Winter	Scallop
Fall	1.00			
Spring	0.45	1.00		
Winter	0.25	0.00	1.00	
Scallop	0.49	0.40	0.47	1.00

Age 2	Fall	Spring	Winter
Fall	1.00		
Spring	0.82	1.00	
Winter	0.45	0.65	1.00

Age 3	Fall	Spring	Winter
Fall	1.00		
Spring	0.71	1.00	
Winter	0.45	0.86	1.00

Age 4	Fall	Spring	Winter
Fall	1.00		
Spring	0.74	1.00	
Winter	0.46	0.57	1.00

Age 5	Fall	Spring	Winter
Fall	1.00		
Spring	0.36	1.00	
Winter	-0.46	0.54	1.00

Age 6	Fall	Spring	Winter
Fall	1.00		
Spring	0.57	1.00	
Winter	-0.49	-0.55	1.00

Age 7+	Fall	Spring	Winter
Fall	1.00		
Spring	-0.18	1.00	
Winter	-0.07	-0.31	1.00

Table A1.9c. Results of virtual population analysis of southern New England – Mid Atlantic yellowtail flounder.

Abundance (thousands)		age-1	age-2	age-3	age-4	age-5	age-6	age-7+	sum
1973	43532	17681	27907	16078	8927	11005	2006	127136	
1974	10627	35442	9380	12035	5945	2580	2769	78778	
1975	31562	7921	3212	2653	3185	1531	1256	51320	
1976	14634	17779	2749	925	1149	1162	1009	39407	
1977	50316	11788	8514	1182	462	535	596	73393	
1978	54165	36207	5103	2545	509	126	243	98898	
1979	32034	36476	16803	2220	754	193	57	88537	
1980	44493	26042	12293	5915	856	221	64	89884	
1981	138470	35518	12078	4097	1378	238	32	191811	
1982	64223	113335	22719	3032	707	123	11	204150	
1983	16726	52429	60492	5609	801	203	62	136322	
1984	19164	11280	25473	10766	1334	308	36	68361	
1985	20993	15223	3625	2767	1459	298	60	44425	
1986	7315	15161	5158	1000	485	191	32	29342	
1987	15044	5570	3392	1213	244	75	13	25551	
1988	124008	10875	1450	634	155	49	11	137182	
1989	17769	96192	6995	702	61	6	0	121725	
1990	8083	14526	60731	2699	157	7	0	86203	
1991	3934	6444	10032	11136	211	47	23	31827	
1992	2267	2817	3819	3537	338	21	6	12805	
1993	2041	1425	992	1229	417	8	0	6112	
1994	2953	1660	753	407	363	210	7	6353	
1995	3392	2278	682	334	79	18	20	6803	
1996	1988	2771	1586	395	75	37	13	6865	
1997	5951	1608	1882	732	98	8	9	10288	
1998	3377	4871	1223	486	113	25	7	10102	
1999	5753	2762	3525	427	121	19	7	12614	
2000	1889	4705	2166	786	89	6	4	9645	
2001	3060	1515	3339	786	239	59	35	9033	
2002	---	2504	991	1455	260	79	31	---	
average	25854	19827	10635	3259	1032	646	281	62582	

Table A1.9b.

Fishing Mortality

	age-1	age-2	age-3	age-4	age-5	age-6	age-7+	ages 4-6
1973	0.01	0.43	0.64	0.79	1.04	0.76	0.76	0.86
1974	0.09	2.20	1.06	1.13	1.16	1.15	1.15	1.15
1975	0.37	0.86	1.04	0.64	0.81	0.85	0.85	0.77
1976	0.02	0.54	0.64	0.50	0.57	0.60	0.60	0.56
1977	0.13	0.64	1.01	0.64	1.10	0.99	0.99	0.91
1978	0.20	0.57	0.63	1.02	0.77	0.76	0.76	0.85
1979	0.01	0.89	0.84	0.75	1.03	0.86	0.86	0.88
1980	0.03	0.57	0.90	1.26	1.08	1.04	1.04	1.13
1981	0.00	0.25	1.18	1.56	2.22	1.38	1.38	1.72
1982	0.00	0.43	1.20	1.13	1.05	1.24	1.24	1.14
1983	0.19	0.52	1.53	1.24	0.76	1.58	1.58	1.19
1984	0.03	0.94	2.02	1.80	1.30	2.12	2.12	1.74
1985	0.13	0.88	1.09	1.54	1.83	1.41	1.41	1.59
1986	0.07	1.30	1.25	1.21	1.67	1.33	1.33	1.40
1987	0.12	1.15	1.48	1.86	1.41	1.66	1.66	1.64
1988	0.05	0.24	0.53	2.13	3.06	0.89	0.89	2.03
1989	0.00	0.26	0.75	1.30	1.99	0.82	0.82	1.37
1990	0.03	0.17	1.50	2.35	1.00	1.62	1.62	1.66
1991	0.13	0.32	0.84	3.29	2.13	1.60	1.60	2.34
1992	0.26	0.84	0.93	1.94	3.55	1.40	1.40	2.30
1993	0.01	0.44	0.69	1.02	0.48	0.81	0.81	0.77
1994	0.06	0.69	0.61	1.44	2.82	1.10	1.10	1.79
1995	0.00	0.16	0.34	1.29	0.57	0.58	0.58	0.81
1996	0.01	0.19	0.57	1.19	2.11	0.71	0.71	1.34
1997	0.00	0.07	1.15	1.67	1.19	1.33	1.33	1.40
1998	0.00	0.12	0.85	1.19	1.58	1.00	1.00	1.26
1999	0.00	0.04	1.30	1.37	2.84	1.40	1.40	1.87
2000	0.02	0.14	0.81	0.99	0.21	0.85	0.85	0.68
2001	0.00	0.22	0.63	0.91	0.91	0.91	0.91	0.91
average	0.07	0.55	0.97	1.35	1.46	1.13	1.13	1.31

Table A1.9c.

Spawning Biomass (mt)

	age-1	age-2	age-3	age-4	age-5	age-6	age-7+	sum
1973	1091	2974	6704	3983	2033	3082	652	20519
1974	248	2970	1912	2739	1483	633	758	10743
1975	704	1090	705	809	910	452	414	5084
1976	396	2933	773	345	417	451	414	5729
1977	1226	1742	1922	420	138	157	216	5821
1978	1397	5701	1354	822	225	58	104	9661
1979	722	5164	3879	709	267	84	23	10848
1980	1085	3932	2927	1612	342	115	42	10055
1981	2318	5716	2276	934	300	82	8	11634
1982	1734	16980	4388	869	278	56	6	24311
1983	323	7496	9789	1529	359	79	25	19600
1984	412	1233	2920	1816	348	76	5	6810
1985	436	1866	758	547	315	88	21	4031
1986	158	1707	915	257	131	62	13	3243
1987	422	630	583	208	65	20	5	1933
1988	3916	1962	416	118	24	25	7	6468
1989	661	19864	1816	208	18	4	0	22571
1990	288	3013	11096	424	73	3	0	14897
1991	92	1005	2146	1075	54	20	6	4398
1992	41	426	859	630	43	8	4	2011
1993	30	286	288	333	201	5	0	1143
1994	23	172	185	91	59	87	3	620
1995	50	433	214	82	38	9	10	836
1996	35	651	460	103	17	18	7	1291
1997	100	306	435	161	32	4	6	1044
1998	65	926	318	154	41	13	4	1521
1999	152	536	815	125	23	10	4	1665
2000	8	1062	661	290	57	4	3	2085
2001	56	355	1014	308	115	35	22	1905
average	627	3211	2156	748	290	198	96	7327

Table A1.10. Yield and spawning biomass per recruit of southern New England – Mid Atlantic yellowtail flounder.

The NEFC Yield and Stock Size per Recruit Program - PDBYPRC
PC Ver.1.2 [Method of Thompson and Bell (1934)] 1-Jan-1992

Run Date: 17- 9-2002; Time: 09:41:39.27
SNE-MA YELLOWTAIL FLOUNDER - 1994-2001 INPUT

Proportion of F before spawning: .4167
Proportion of M before spawning: .4167
Natural Mortality is Constant at: .200
Initial age is: 1; Last age is: 8
Last age is a PLUS group;
Original age-specific PRs, Mats, and Mean Wts from file:
==> snemayt.dat

Age-specific Input data for Yield per Recruit Analysis

Age	Fish Mort	Nat Mort	Proportion	Average Weights	
	Pattern	Pattern	Mature	Catch	Stock
1	.0100	1.0000	.1300	.131	.131
2	.1700	1.0000	.7400	.310	.310
3	.6400	1.0000	.9800	.418	.418
4	1.0000	1.0000	1.0000	.525	.525
5	1.0000	1.0000	1.0000	.671	.671
6	1.0000	1.0000	1.0000	.869	.869
7	1.0000	1.0000	1.0000	.940	.940
8+	1.0000	1.0000	1.0000	1.026	1.026

Summary of Yield per Recruit Analysis for:
SNE-MA YELLOWTAIL FLOUNDER - 1994-2001 INPUT

Slope of the Yield/Recruit Curve at F=0.00: --> 2.5485
F level at slope=1/10 of the above slope (F0.1): -----> .246
Yield/Recruit corresponding to F0.1: -----> .2265
F level to produce Maximum Yield/Recruit (Fmax): -----> .739
Yield/Recruit corresponding to Fmax: -----> .2581
F level at 40 % of Max Spawning Potential (F40): -----> .261
SSB/Recruit corresponding to F40: -----> 1.1288

Table A1.10 continued.

 Listing of Yield per Recruit Results for:
 SNE-MA YELLOWTAIL FLOUNDER - 1994-2001 INPUT

	FMORT	TOTCTHN	TOTCTHW	TOTSTKN	TOTSTKW	SPNSTKN	SPNSTKW	% MSP
	.000	.00000	.00000	5.5167	3.2532	4.0669	2.8223	100.00
	.100	.21897	.15373	4.4270	2.2137	2.9720	1.8000	63.78
	.200	.33004	.21222	3.8766	1.7151	2.4167	1.3144	46.57
F0.1	.246	.36506	.22653	3.7037	1.5648	2.2416	1.1691	41.42
F40%	.261	.37497	.23015	3.6548	1.5231	2.1921	1.1288	40.00
	.300	.39788	.23774	3.5420	1.4281	2.0776	1.0374	36.76
	.400	.44405	.24951	3.3154	1.2441	1.8470	.8612	30.51
	.500	.47780	.25494	3.1508	1.1173	1.6786	.7405	26.24
	.600	.50373	.25727	3.0249	1.0251	1.5492	.6531	23.14
	.700	.52444	.25804	2.9249	.9552	1.4461	.5872	20.80
Fmax	.739	.53153	.25809	2.8908	.9321	1.4108	.5654	20.03
	.800	.54146	.25801	2.8432	.9005	1.3615	.5357	18.98
	.900	.55578	.25759	2.7747	.8565	1.2904	.4943	17.51
	1.000	.56805	.25698	2.7164	.8203	1.2297	.4603	16.31
	1.100	.57874	.25630	2.6658	.7899	1.1769	.4318	15.30
	1.200	.58817	.25559	2.6214	.7640	1.1304	.4075	14.44
	1.300	.59657	.25490	2.5819	.7416	1.0891	.3865	13.69
	1.400	.60414	.25424	2.5465	.7219	1.0521	.3682	13.04
	1.500	.61100	.25361	2.5145	.7046	1.0185	.3519	12.47
	1.600	.61728	.25301	2.4854	.6891	.9880	.3374	11.96
	1.700	.62305	.25245	2.4586	.6752	.9600	.3244	11.49
	1.800	.62838	.25191	2.4340	.6625	.9342	.3126	11.08
	1.900	.63334	.25140	2.4112	.6510	.9103	.3018	10.69
	2.000	.63796	.25091	2.3899	.6404	.8880	.2920	10.34